

Attorney Docket No.: J3681(C)  
Serial No.: 10/521,983  
Filed: August 17, 2005  
Confirmation No.: 1483

### **REMARKS**

Claims 9 and 10 have been amended to describe the claimed compositions as "further comprising" the ingredients therein identified. Claim 13 has been amended to more particularly describe the manufacturing steps of the claimed method. See, for example, page 9, lines 2 to 8. Claim 14 has been amended to substitute --comprising applying to-- for "comprising the application to".

The subject amendments are submitted in a good faith effort to advance the prosecution of this application. Further, it is respectfully submitted that such amendments moot the 35 U.S.C. 112 rejection set forth in the Office Action of December 23, 2008.

Pursuant the referenced Action, claims 1 to 10 and 12 to 15 were rejected under 35 U.S.C. 103(a) over Hall (US 5,840,289). This rejection is respectfully traversed.

Pursuant to the subject invention it was found that the use of a high viscosity masking oil, in particular a masking oil having a viscosity of  $10^4 \text{mm}^2/\text{s}$  or greater, in an aerosol antiperspirant composition that contains a milled activated aluminium chlorohydrate (AACH), results in composition having remarkably low whitening.

Hall discloses compositions comprising a milled antiperspirant active and a masking oil of comparable refractive index. The masking oils employed in the Hall examples are Finsolv TN, Silkflo 264NF, Panalene L-14E and Cosmacol PLG. In a response submitted in the PCT family member of the subject application (International Application No. PCT/EP 03/07065) and dated July 16, 2004 (copy attached), the viscosities of such oils were identified as follows:

Attorney Docket No.: J3681(C)  
Serial No.: 10/521,983  
Filed: August 17, 2005  
Confirmation No.: 1483

Finsolv TN – approximately 40 cps

Silkflo 364NF16 -18cSt

Panalene L-14E – 48cps and

Cosmacol PLG - therein described as comprising the oils di(C<sub>12-13</sub>) alkyl citrate and tri(C<sub>12-13</sub>) alkyl citrate, both of which are of relatively low viscosity, together with silica (a solid, not an oil) that serves to increase the viscosity of the mixture up to 1000mPa.s.

Specification sheets for the Finsolv TN, Silkflow 364NF and Cosmacol PLG products are attached. For purposes of conversion, kinematic viscosities (commonly reported in units of mm<sup>2</sup>/s or centistokes, with 1 mm<sup>2</sup>/s being equal to 1 centistoke) may be derived from dynamic viscosities (commonly reported in units of centipoise, with 1 centipoise being equal to 1 mPa.s.) by dividing a material's dynamic viscosity by its specific gravity.<sup>1</sup>

Applying this calculation, Finsolv TN, the viscosity and specific gravity of which are reported in the attached specification sheet as approximately 40 cps and approximately 0.923, respectively, is calculated to have a derived viscosity of about 44 mm<sup>2</sup>/s.

1 mm<sup>2</sup>/s being equal to 1 centistoke, based on the attached specification sheet, Silkflo 364NF is believed to have as a kinematic viscosity of 16-18 mm<sup>2</sup>/s.

The referenced response in the PCT family member indicates that the derived viscosity of Panalene L-14E is between 56 and 48 mm<sup>2</sup>/s.

---

<sup>1</sup> Derived viscosities afford a basis of comparing products whose viscosities are obtained by different procedures (e.g., dynamic and kinematic viscosities). It should, however, be noted that variations may be observed between derived viscosities and measured viscosities. Derived viscosities are offered only as reasonably establishing that the masking oils exemplified by Hall do not meet the viscosity requirements of the subject claims.

Attorney Docket No.: J3681(C)  
Serial No.: 10/521,983  
Filed: August 17, 2005  
Confirmation No.: 1483

The referenced response in the PCT family member also indicates that, with respect to Cosmacol PLG, the viscosity of the oil components of this product would be much less than the 1000 mPa.s (centipoise) reported for the silica thickened product itself. The response also indicates that the specific gravity of the oils are between 0.85 and 1.0 and that derived viscosities of the oils themselves would be much less than 1000 mm<sup>2</sup>/s.

Accordingly, it is respectfully submitted that the masking oils in Hall's examples are all significantly less than that required by the subject claims (i.e., 10,000 mm<sup>2</sup>/s or greater).

The Office Action maintains that viscosity of the masking oil "is merely judicious selection and routine optimization, which would have been obvious to one of ordinary skill in the art". The Action, however, has failed to provide any basis for expecting that combining a high viscosity masking oil with a milled antiperspirant active would decrease whiteness. Conventional wisdom might have led one skilled in the art to expect that lower viscosity oils, which would reasonably be expected to spread more easily, might provide better coating of the active. Indeed, such a rationale is consistent with Hall's exemplification of masking oils having considerably lower viscosities than 10,000 m<sup>2</sup>/s.

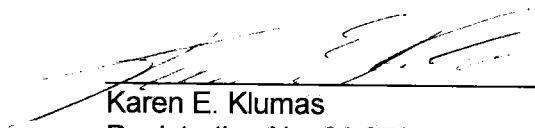
In short, it is respectfully submitted that Hall does not disclose or suggest the use of the high viscosity oils of the subject claims. Nor is there any teaching or suggestion of the reduced whiteness afforded by the subject combination of milled active and masking oil as demonstrated by the data provided in the subject application and discussed in Applicants' prior response.

Attorney Docket No.: J3681(C)  
Serial No.: 10/521,983  
Filed: August 17, 2005  
Confirmation No.: 1483

In view of the foregoing, reconsideration and allowance of the subject claims is respectfully requested.

If a telephone conversation would be of assistance in advancing the prosecution of the present application, applicants' undersigned attorney invites the Examiner to telephone at the number provided.

Respectfully submitted,



Karen E. Klumas  
Registration No. 31,070  
Attorney for Applicant(s)

KEK/sa  
(201) 894-2332



Unilever

Colworth House Sharnbrook Bedford MK44 1LQ England  
Telephone 01234 781781 Facsimile 01234 222000

International Preliminary Examining Authority  
European Patent Office  
D-80298 Munich  
Germany

Patent Department

direct line ~~01234 22~~ + 44 151 641 3833  
facsimile 01234 22 2633

Our Ref: CW/jc/J3681 (C)

16 July 2004

Dear Sirs

**Re: International Application No. PCT/EP 03/07065  
Unilever PLC et al**

---

In response to the first written opinion of the IPEA issued on the 19.04.2004, the applicant wishes to submit the following observations.

The present invention concerns masking oils of particularly high viscosity ( $10^3$  mm<sup>2</sup>/s or greater). It is respectfully submitted that document D3 does not disclose any masking oils of such high viscosity. Of the oils exemplified in D3:

Finsolv TN has a viscosity of approximately 40 cps (1);  
Silkflo 364NF has a viscosity of 16-18 cSt (2);  
Panalane L-14E has a viscosity of 48 cps (3); and

Cosmacol PLG comprises the oils di(C<sub>12-13</sub>)alkyl citrate and tri(C<sub>12-13</sub>)alkyl citrate, both of which are of relatively low viscosity, together with silica (a solid, not an oil) that serves to increase the viscosity of the mixture up to 1000 mPa.s (4).

Of the other oils mentioned in column 2 of D3, Fluid AP has a viscosity of 84 cps (5) and isopropyl palmitate, phenylsilicone, and isopropyl myristate are all of low viscosity.

Thus, it is respectfully submitted that D3 neither discloses nor suggests the use of the high viscosity oils of the present application. The surprising benefit obtained from the use of these oils is clear from the examples given in the specification. It is respectfully requested that the novelty and inventiveness of present claims be acknowledged in light of these observations.

- (1) See the enclosed sheet giving the supplier's specification for this material. It should be noted that the kinematic viscosity in mm<sup>2</sup>/s may be derived from the viscosity in cps by dividing the latter by the specific gravity of the oil. Since Finsolv TN has a specific gravity of approximately 0.923, the kinematic viscosity is approximately 43 mm<sup>2</sup>/s.
- (2) See the enclosed Unilever raw material specification sheet for this material.

J3681OAWO1

PATENTS IN THE BUSINESS  
Unilever PLC

Registered in London number 41424 Registered office Port Sunlight Wirral Merseyside CH62 4ZA

- (3) This measurement was made in our own laboratories (at 25°C and 1001 Hz). Since the specific gravity of the oil will be between 0.85 and 1.0, the kinematic viscosity is between 56 and 48 mm<sup>2</sup>/s [see note (1)].
- (4) See the enclosed details of the supplier's technical literature. With the viscosity of the silica-containing mixture being 1000 mPa.s (equal to 1000 cps), it is clear that the viscosity of the oils by themselves would be much less 1000 mPa.s/cps. With the specific gravity of the oils being between 0.85 and 1.0, it is further clear that the kinematic viscosities of the oils are much less than 1000 mm<sup>2</sup>/s [see note (1)].
- (5) This measurement was made in our own laboratories (at 25°C and 1001 Hz). Since the specific gravity of the oil is approximately 1, the kinematic viscosity of the oil is approximately 48 mm<sup>2</sup>/s [see note (1)].

Yours faithfully

*C Whaley*

Whaley, Christopher  
European Patent Attorney  
General Authorisation No. 170

Encl. Sheet giving supplier's specification for Finsolv TN;  
Unilever raw material specification sheet for Silkflo 364 NF;  
Sheet giving supplier's technical literature on Cosmacol PLG.

**Local or Supplier Specification**

12th May 1993

Unilever Name:	<b>C12-15 Alkyl Benzoate</b>
Specification from:	Elida Gibbs, Germany (Supplier's Specification)
INCI Name:	C12-C15 Alkyl Benzoate
Trade name(s):	Finisly TN
Local Ref:	.
Status:	Published

**CONTROL  
PROPERTY****LIMITS****TEST METHODS****Local****UMA Equivalent**

1. Condition at 20oC	Clear liquid	Supplier
2. Odour	Mild	Supplier
3. Colour (Hazen)	50 max	Supplier
4. Acid value	0.25mg KOH/g max	Supplier
5. Water (Karl Fischer)	0.1% max	Supplier
6. Saponification value	167 - 180mgKOH/g	Supplier
7. Hydroxyl value	8mg KOH/g max	Supplier
8. Freeze point	-9oC	Supplier
9. Fluid point	-6oC	Supplier
10. Flame point	165oC	Supplier
11. Specific gravity (at 25oC)	0.923 approx	Supplier
12. Viscosity (at 25oC, Brookfield)	40 cps approx	Supplier
13. Solubility	Soluble in Isopropanol, Isopropyl Myristate, Mineral Oil, Corn Oil. Insoluble in Glycerin, Propylene Glycol, Sorbitol (70%)	Supplier

**Unilever Raw Material Specification****March 1996**

<b>Unilever Name:</b>	<b>Polydecene (Silkflo 364NF)</b>
<b>INCI Name:</b>	<b>Polydecene</b>
<b>Status:</b>	<b>Unilever Quality Standard (UQS)</b>
<b>Supersedes:</b>	<b>Interim Specification, March 1996</b>

UNLESS OTHERWISE STATED, ALL LIMITS APPLY TO MATERIAL 'AS RECEIVED'. TEST METHODS ARE UNILEVER METHODS EXCEPT WHERE INDICATED OTHERWISE.

<b>CONTROL PROPERTY</b>	<b>LIMITS</b>	<b>TEST METHOD</b>
1. Description	Colourless, slightly viscous, odourless liquid, free from signs of impurity	Visual inspection and Olfactory assessment
2. Identity	Conforms	Infra-red spectroscopy (thin film) E.IIk.1
3. Colour	10 max	Hazen E.IIj.3
4. Oligomer distribution		Supplier method
- Monomer & Dimer	1% max	
- Trimer	82-86%	
- Tetramer	12-18%*	
- Pentamer & above	1% max	
5. Water	25 ppm max	Karl Fischer E.IIIa.4
6. Specific gravity		Density bottle E.IIa.1
(at 15.6°C)	0.817-0.820	
(at 20°C)	0.815-0.818	
7. Refractive index	1.4550-1.4560	Abbé refractometer E.III.1
(at 20°C)		
8. Viscosity (at 40°C)	16-18 cSt	U-tube viscometer E.IId.1
9. Pour point	-65°C max	Supplier method
10. Acid value	0.1 mg KOH/g max	Titration Supplier method
11. Bromine number	0.4 g Br/100g max	Supplier method
12. Iron	5 ppm max as Fe	Supplier method
13. Arsenic	5 ppm max as As	Gutzeit test E.IIIh.2-2
14. Heavy metals	15 ppm max expressed as Pb	Colorimetry E.IIIh.4-2
15. Lead	5 ppm max as Pb	Supplier method
16. Chromium	1 ppm max as Cr	Supplier method
17. Cobalt	1 ppm max as Co	Supplier method
18. Nickel	1 ppm max as Ni	Supplier method
19. Mercury	1 ppm max as Hg	Supplier method

## RAW-MATERIALS TECHNOLOGY GROUP

### Suppliers Technical Literature

---

Reference : 16286  
Brochure Number : 14152  
Supplier : CONDEA  
Extension:  
Trade Name : **Cosmacol** PLG  
Material : Di(C12-13)alkyl tartrate, tri(C12-13)alkyl citrate, silica  
Type : Other ester  
Description :  
Specification : Dry matter = >99.9% Visc @ 20C = 1000mPa.s  
Density @ 20C = 0.85  
  
Comments : For use in personal product formulations, emollient anti-wrinkle etc  
Date : 00/01/94/A  
Availability:

---

Author: Diana Probert  
Date: 21/05/96  
Last edited: 27/08/99 10:24:58 by Diana Curtis  
  
Document size: 0.9 Kbytes